



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/048,226	05/13/2002	Hiroyuki Hayashikawa	2002-0072A	3380
513	7590	03/26/2004	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P. 2033 K STREET N. W. SUITE 800 WASHINGTON, DC 20006-1021			NGUYEN, TUAN N	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/048,226

Applicant(s)

HAYASHIKAWA ET AL.

Examiner

Tuan N Nguyen

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-13 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/3/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

#### ***Response to Amendment***

1. In respond to applicant's amendment filed 01/15/2004, claims 1-7 are withdrawn, claims 8-13, and 15 have been amended, and claim 14 have been canceled. Claims 8-13 and 15 are pending. Amendment to paragraph beginning page 1 line 12, page 5 line 24, page 6 line 3, page 14 line 17, page 14 line 21, page 16 line 7, page 17 line 4, page 19 line 9, page 20 line 21, page 21 line 11, page 31 line 2, and page 31 line 11 have been amended.
2. Applicant's arguments with respect to claims 8-13, 15 have been considered but are moot in view of new ground(s) of rejection.

#### ***Drawings***

3. Acknowledge the formal drawings were received on 01/15/2004.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 8-13, 15 are rejected under 35 U.S.C 112, second paragraph, as being indefinite, vague, and confusing for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, **for example**.

Claims 8, 9 recite a laser oscillator comprising: a discharge tube and a laser gas passage for supplying laser gas to said discharge tube, wherein the diameter, width, and height of the

Art Unit: 2828

discharge tube is within a given range. There is insufficient means, structure, and functional relationship to conform a laser oscillator or the reason why the dimension range is significant, which render the claims vague and indefinite. It is not clear if the equation is based on the designer choice or the equation based on an experimental result, which render the claim vague and indefinite. Claims 10-12 are rejected base on the same reason.

Claim 13 recites a laser oscillator comprising: a discharge tube, electrodes at both end of discharge tube, a high voltage power supply to said electrodes, a hole opened in the discharge hole has an auxiliary electrode, and an auxiliary electrode connected to one of said electrode via a high resistance resistor outside discharge tube, wherein a distance between the hole and *an electrode not connected with said auxiliary electrode* is .4L and .7L. It is vague and indefinite as to the structural relationship of *an electrode* vs *electrodes* and *auxiliary electrode*. It is vague and indefinite as to the length of the hole and the electrode, there is a big different between (ex. .4mm & .7mm vs. .4m and .7m), and it is not clear as to the significant of the dimension range or “its post solution”, which render the claims vague and indefinite. Claim 15 is rejected base on the same reason.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2828

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or non-obviousness.
7. Claims 8-13, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art Figures 25-33.

PRIOR ART (Figures 25, 26, 28, 31, 32: 1-5, 55,56,156, 58,158) a laser oscillator having a discharge tube with gas, and a gas passage. Figures 26 further shows a high power supply applying to the electrodes (Fig 26: 2-4); wherein a hole is opened in the discharge tube with auxiliary electrode covering the opened hole and outside of discharge tube (Fig 31: 156), and auxiliary electrode is connected to one electrode via a high resistance resistor (F 31: 3, 158). It is inherently obvious that the discharge tube and its gas passage have a diameter, width and height (Fig 28). Discovering the optimum or workable ranges of resistor or of length, width, height of the discharge tube and gas passage to improve its flow dynamic to fit the laser oscillator, involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Page 1 line 22-23 of the BACKGROUND ART disclosed the discharge tube made up dielectric (non conductive) material.

8. Claims 8-13, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashikawa et al. (US 6580742).

Hayashikawa ' 742 shows in (Fig 1, 4-6, 8, 10-12, 14-45) a laser oscillator having a discharge tube with gas, a gas passage, a high power supply applying to the electrodes, and gas flow path and dimension. Discovering the optimum or workable ranges of resistor or of length, width, height of the discharge tube and gas passage to improve its flow dynamic to fit the laser oscillator, involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It has been held that omission of an element and its function in a combination where the remaining elements perform the same function as before involves only routine skill in the art, in this case the auxiliary electrode and dielectric material. *In re Karlson*, 136 USPQ 184. Also, It has been held where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, in this case the parameters of length, width, height, or diameter of the tube. *In re Aller*, 105 USPQ 233.

### ***Conclusion***

9. Applicant's arguments filed on 01/15/2004 have been fully considered but they are not persuasive. The prior art made of record and relied upon is considered pertinent to applicant's discloses.

Bakowshy et al. (US 4573162), Yamene et al. (UUS005450435A), Hongu (US006208676B1), disclose a laser oscillator having a discharge tube with gas, and a gas passage.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2828

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

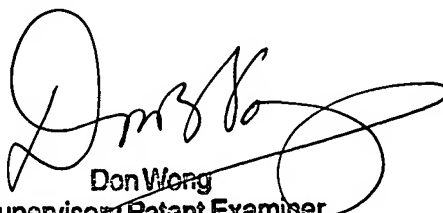
***Communication Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (571) 272-1941. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

Tuan N. Nguyen



Don Wong  
Supervisory Patent Examiner  
Technology Center 2800